REMARKS

This is a full and timely response to the Office Action mailed October 27, 2006, filed concurrently with a Request for Continued Examination.

By this Amendment, claims 1 and 7 have been amended to more particularly define the present invention. Further, new claims 14-22 have been added to further protect specific embodiments of the present invention. Thus, claims 1-3, 5 and 7-22 are pending in this application.

Support for the claim amendments and new claims can be found variously throughout the specification and the original claims. More partcularly, with regard to the amendments to claims 1 and 7, the upper-limit amount of the water-solubility imparting component (i.e., "40%") is supported on page 8, lines 20-24, of the specification, and the amount of the water-solubility imparting component (i.e. in the range of 2 to 40 mol% with respect to the total amount of the dicarboxylic acid component and the water-solubility imparting component) is supported on page 9, lines 9-21, of the specification. Also, with regard to new claims 14-22, support can be found on (1) page 8, lines 29 to page 9, line 2, (2) page 13, line 11 to page 15, line 12, (3) page 16, lines 11-17, (4) page 18, lines 3-14, and (5) page 16, lines 15-24 of the specification.

In view of the foregoing amendment and the following remarks, Applicant believes that all pending claims are in condition for allowance. Reexamination and reconsideration in light of the above claims and the following remarks is respectfully requested.

Rejections under 35 USC § 103

Claims 1-3, 5 and 7-13 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over JP 54-003848 and JP 55-5938 in combination with either one of JP 63-037815, JP 56-150818, Handa et al. (U.S. Patent 5,935,684) or Laganis (U.S. Patent 4,179,420). Applicant respectfully traverses these rejections.

To establish a *prima facie* case of obviousness, the following three criteria must be satisfied. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations. Here, in this case, all of the cited

references, (JP 54-003848, JP 55-5938, JP 63-037815, JP 56-150818, Handa et al. and Laganis) in the combination presented by the Examiner, fails to teach or suggest all the claim limitations, with particularly emphasis on the limitations "*the water-solubility imparting component is in a range of 1 to 40 mol%*" and "*wherein an amount of the water-solubility imparting component is in a range of 2 to 40 mol% with respect to the total amount of the dicarboxylic acid component and the water-solubility imparting component*".

JP 54-003848 and JP 55-5938 are directed to water-soluble polyester adhesives. JP 54-003848 discloses the use of an aromatic dicarboxylic acid component, an aliphatic dicarboxylic acid component, an ester-forming sulfonic acid alkali metal salt composition, and a glycol component (e.g., diethylene glycol), a phosphorus compound (20 to 1000 ppm). In addition, 5-(Sodiomsulpho) Isophthalic Acid (SSIPA) is used as the ester-forming sulfonic acid alkali metal salt composition. However, JP 54-003848 as well as JP 55-5938 fail to teach or suggest the feature of the limitations "*wherein the water-solubility imparting component comprises at least one of a tribasic acid anhydride and a tetrabasic acid anhydride*", and "*wherein the reactive phosphorus-containing compound is at least one selected from compounds represented by the following general formulas (I), (II) and (III)*". In particular, JP 54-003848 and JP 55-5938 fails to teach or suggest the water-solubility imparting component comprising a dicarboxylic-acid component with a metal sulfonate group and at least one of a tribasic acid anhydride and a tetrabasic acid anhydride of claim 7.

The Examiner attempts to address such deficiencies in JP 54-003848 and JP 55-5938 by citing four new references (JP 63-037815, JP 56-150818, Handa et al. and Laganis) which the Examiner argues, teach the use of polyvalent carboxylic acids and their anhydrides in the art of water-soluble polyester resins. In other words, the Examiner believes that a person skilled in the art may use the polyvalent carboxylic acids in the adhesive agent of JP 54-003848 and JP 55-5938. However, Applicant disagrees with the Examiner's arguments in this regard.

Applicant submits that the preferred amount of at least one of a tribasic acid anhydride and a tetrabasic acid anhydride as the water-solubility imparting component in the claimed polyester resin having the reactive phosphorus-containing compound as an essential component is not taught or suggested by the cited references. As described on page 8, lines 23 to 29, of the specification, there are clear advantages to obtaining a sufficient polymerization degree under a polymerization

condition of eliminating an undesired crosslinking reaction in the production process, and maintaining excellent hydrophilicity. Furthermore, when the amount of the water-solubility imparting component is in a range of 2 to 40 mol% with respect to the total amount of the dicarboxylic acid component and the water-solubility imparting component, a very high flame resistance and durable composition for film formation can be obtained. Such advantages are not at all taught or suggested in any of the cited references. As the Examiner already knows, a showing of superior and unexpected properties can rebut a *prima facie* case of obviousness. *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963).

Thus, since the water-soluble, flame retardant polyester resin of the amended claims is different from the water-soluble polyester adhesives disclosed in cited references, and possesses superior properties not expected from the teachings of the cited references, this rejection can no longer be sustained and should be withdrawn.

With regard to the new claims, Applicant submits that the cited references also fail to teach or suggest all of the limitations of these claims.

Claims 15-17 are directed to preferred embodiments of the reactive phosphorus-containing compounds (I), (II) and (III) defined in claim 1. Applicant submits that the cited references (particularly JP 54-003848 and JP 55-5938) fail to disclose the use of such specific compounds as the reactive phosphorus-containing compound. JP 54-003848 merely discloses the use of a phosphorus compound such as phosphorous acid and phosphoric acid (and/or its ester compound). Moreover, JP 55-5938 only discloses that phosphorus compounds such as phosphorous acid, phosphoric acid, phosphonic acid, phosphinic acid (and/or its ester compound), phosphonium salt compound, boron phosphate, pyrophoric acid, triamide phosphate and ammonium phosphate are available. Hence, Applicant believes that the inventions of new claims 15-17 are further distinguished from the cited references by the combined use of a preferred amount of at least one of a tribasic acid anhydride and a tetrabasic acid anhydride as the water-solubility imparting component and the use of the claimed specific compounds as the reactive phosphorus-containing compound.

With regard to claim 19, when the number-average molecular weight is larger than 5000, there is an effect of sufficiently improving hydrolysis resistance in addition to excellent durability and water resistance. Also, when the number-average molecular weight is smaller than 50000, it is possible to maintain excellent solution stability when the resin composition is dispersed or dissolved in the aqueous solvent.

With regard to claims 20-22, when the intrinsic viscosity is larger than 0.05, it is possible to obtain a film having excellent strength. On the other hand, when the intrinsic viscosity is smaller than 1.0, it is possible to remarkably improve the long-term storage stability. Hence, the most superior effect is obtained when the intrinsic viscosity is in a range of 0.12 to 0.9, and particularly 0.2 to 0.9.

Such advantages are not at all taught or suggested in any of the cited references. As stated earlier, a showing of superior and unexpected properties can rebut a *prima facie* case of obviousness. *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963). Thus, for also these reasons, Applicant submits that these new claims are patentable over the teachings and suggestions of the cited references.

CONCLUSION

For the foregoing reasons, all of the claims now pending in the present application are believed to be clearly patentable over the outstanding rejections. Accordingly, favorable reconsideration of the claims in light of the above remarks is courteously solicited. If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the below-listed number.

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Respectfully submitted,

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